P.E.I. ENVIRONMENTAL ADVISORY COUNCIL

1987 - 1988
ANNUAL REPORT

ENVIRONMENTAL ADVISORY COUNCIL

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Honourable Gilbert R. Clements
Minister of Community & Cultural Affairs
Province of Prince Edward Island

In accordance with the requirements of the **Environmental Protection Act**, I have the honour of presenting the first annual report of the Environmental Advisory Council.

This report covers the time period from the formation of the Council in June 1987 to December 31, 1988.

Respectfully submitted,

Preston MacDonald
Chairman

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INTRODUCTION

In April 1987 the Government of Prince Edward Island adopted a plan for the wise use of our resources - "A Conservation Strategy for Prince Edward Island". This the first and currently the only Conservation Strategy which has been approved by any government in Canada.

A key factor in the development of the strategy was the participation of people representing organizations from across the province as well as the Federal and Provincial Governments. As such it represents the views, feelings and hopes of Islanders. The importance of government support is highlighted within the strategy with the statement **"unless there is a strong public commitment to the conservation strategy from government, the strategy will fail..."**

The Conservation Strategy recommended the formation of a council whose specific duties included:

- **reviewing progress on the conservation strategy and presenting an annual "State of the Environment" report to the Legislature**
- **recommendation on the distribution of the conservation funds and the conservation awards**
- **co-ordinating effective efforts among private groups in the field of conservation**
- **advising a Minister or Executive Council on new programs and policies.**
- **providing liaison with the proposed Conservation Centre.**

Rather than establish a new and perhaps somewhat duplicative council, the government of P.E.I. chose to re-establish the Environmental Advisory Council. The function of this Council according to the Environmental Protection Act is to :

a) serve as an advisory board to the Minister of Community and Cultural Affairs

b) perform such functions as may be prescribed by regulations.

The Council consists of ten members representative of various interests and appointed from across the province. Five of the members were involved in the development of the Conservation Strategy. Council members, who are appointed for a three year term, receive no financial reimbursement for sitting on the council.

This is the Councils first Annual Report and, consistent with the Environmental Protection Act, contains a summary of its main activities from the date of its formation including submissions received, investigations conducted, reports made and recommendations. Where appropriate the Report contains an indication of what the Council believes is the proper direction for future Government action.

A major problem confronting the Environmental Advisory Council was the fact that it was to report to the Minister of Community and Cultural Affairs, yet many of the problems highlighted in the Conservation Strategy document fall under the jurisdiction of other departments. It is clear that to implement an effective Conservation Strategy government must lead the way. There are, however, various environmental problems caused by the actions of government departments or failure of government agencies to pursue programs that would enhance conservation efforts. There exists, therefore, a need for direct contact with agencies outside the Department of Community and Cultural Affairs.

Since P.E.I. is the first province to develop a Conservation Strategy, it would be natural to expect "pit falls" and to find some departments within government to be much more receptive and able to respond to suggestions more quickly than others. This report should be considered a starting point; a statement of where we are now and what is being done to accomplish the goals set out in the Conservation Strategy. Where the report criticizes activity or the lack of it, it is intended that this be viewed constructively. Although some departments appear to have made little progress, the Environmental Advisory Council as part of its mandate "to advise the Minister on environmental matters related to activities in relation to the Provincial Conservation Strategy" must have the support of all government departments.

The intent and indeed the hope of Council is that activity will be ongoing in new areas. As such, in this document less attention has been paid to the achievements of the government. This has included significant pieces of legislation in 1988 - the Planning Act, the Environmental Protection Act, and the Natural Areas Protection Act. Other activities included the establishment of the Royal Commission on Land Use, the establishment of the Island Conservation Assistance Program which has made funds available for local projects, the signing of a Forestry Economic Regional Development Agreement which contains all of the forestry recommendations noted in the Conservation Strategy, and the signing of several conservation agreements, the most important of which is the Canada-P.E.I. Memorandum of Understanding on Conservation and Development.

It should be noted that a separate report on the Conservation Strategy, providing more detail about provincial activities in relation to conservation and the environment, including achievements will be prepared.

Quotes from the Conservation Strategy have been underlined to facilitate comparison between recommendations of the Strategy and the activities and recommendations of the Council, which have been typed in bold print.

ENVIRONMENTAL ADVISORY COUNCIL - TERMS OF REFERENCE

Section 4(2) of the Environmental Protection Act sets out the Councils responsibilities. The Act provides that:

"(2) the Council shall:

(a) serve as an advisory board to the Minister (of Community and Cultural Affairs)

(b) perform such functions as may be prescribed by regulations"

The mandate for the EAC as prescribed by the Act is somewhat vague, in order to be all encompassing. In discussions with the Minister, he advised Council that he felt that nothing of an environmental nature should be out of bounds for the Council to investigate.

In order to provide for more definition respecting this mandate, the following terms of reference were developed by Council and subsequently approved by the Minister:

1. To advise the Minister of Community and Cultural Affairs on matters referred to it by him or the public under the Environmental Protection Act;

2. To report annually to the Minister on submissions received, research conducted, investigations undertaken, and recommendations made under the Environmental Protection Act;

3. To advise the Minister on environmental matters related to activities in relation to the Provincial Conservation Strategy;

4. To make recommendations to the Minister on conservation or environmental improvement awards;

5. To make recommendations to the Minister respecting opportunities for environmental improvement protection programs or projects;

6. To recommend to the Minister public education projects or programs;

7. To make recommendations to the Minister respecting support for community, private, and non-government programs and projects;

8. To advise the Minister on legislative proposals as they relate to environmental protection and enhancement;

9. To perform such additional functions, including regulatory ones, or carry out such requests as the Minister may make from time to time.

AGRICULTURE

EROSION

"Soil degradation, primarily erosion is the single most important resource problem facing the province".

In order to become more aware of techniques used to combat erosion problems being pursued by other government agencies and operations, a soil and water conservation workshop was sponsored by the Provincial Conservation Strategy and the Department of Agriculture. Agrologists from across Canada participated in the workshop with Dr. Doug Laurence from Texas being the key speaker. The Environmental Advisory Council supported the concept of the workshop and attended, along with Provincial and Federal agriculture staff, farmers and concerned individuals from across P.E.I. A summary of the conference is available from Provincial Conservation Strategy.

Direction

"Extension service of the Department of Agriculture should be upgraded".

1. **The Environmental Advisory Council was one of many participants which supported the following suggestions:**

   a) **there is a need for additional extension staff living in the communities. These new employees should have both a thorough knowledge of farming and know the farmers as well as the land they work.**

   b) **farmers and the public must be made more aware of techniques to overcome erosion problems. A video on soil erosion being developed by the Federal Department of Agriculture and the Provincial Conservation Strategy is strongly supported by the Environmental Advisory Council.**

Council has commended the government on the positive statements about agricultural erosion problems and the need for active rehabilitation measures, as well as the government support for the regional Soil Conservation Centre in New Brunswick.

"Soil Degradation is not simply a problem for the farmer...soil degradation becomes a concern for society as a whole".

It was evident from the workshop that there was a need for greater public awareness and involvement in soil Degradation. The Island Conservation Assistance Program provides a means to sponsor projects which increase this knowledge.

2. **The funding of agriculturally orientated projects through the Island Conservation Assistance Program should be encouraged.**

AGRICULTURE CHEMICALS

"A system for the collection, storage and ultimate out of province transfer of hazardous wastes should be developed.

The Council reviewed the situation of unwanted agricultural chemicals.

3. **Council recommended that an agricultural chemical collection and disposal program should be implemented.**

LAND DEVELOPMENT CORPORATION LANDS

The Land Development Corporation holds or transfers large acreages of land each year. The Environmental Advisory Council felt that options for better erosion control programs on these and other government managed lands might provide an opportunity to offer guidance and example in the task of overcoming our major environmental problem of soil degradation. In order to assess the management of Land Development Corporation lands, the Prince Edward Island Soil and Crop Improvement Association sponsored a project funded by the Island Conservation Assistance Program to assess conditions of fields leased from the Land Development Corporation. The initial data shows that a spring survey to identify sites with erosion problems is warranted, as well as a second year of study to assess current management techniques.

4. **More emphasis should be placed on the establishment of greenbelts along Island streams. This should be initiated on crown-owned lands.**

5. **Land Development Corporation lands could serve as demonstration sites for management of slope sensitive erosion.**

6. **Consideration should be given to retaining portions of Land Development Corporation land that is especially sensitive to erosion or land that could be used to establish a greenbelt along streams.**

CONCLUSION

There is a need to increase public awareness about soil and water problems. The Department of Agriculture can take a leading role in encouraging erosion control techniques. An excellent opportunity is available for close liaison with the regional Soil Conservation Center in New Brunswick where research will hopefully provide information which will be applicable to Prince Edward Island. There is need to ensure that this information is available and is in a form that will facilitate its application to Prince Edward Island.

EROSION CONTROL

"The Dept. of Transportation and Public Works is a key player in the conservation strategy".

The activities of the Department of Transportation and Public Works are of particular significance of environmental management because: a) actions are fully directed by Government; b) enhancement measures are available which can reduce erosion problems stemming from road construction and maintenance and; c) the highway erosion control devices should also reduce the amount of material entering water courses from agricultural lands.

The Environmental Advisory Council members monitored highway activities in their own area. It was apparent that in some districts, efforts were being made to reduce erosion from both highway maintenance and construction programs. In other locations there was disregard in both road maintenance and construction practices.

The Environmental Advisory Council developed a slide presentation for the Minister and Deputy Minister pointing out the magnitude of the erosion problems on Prince Edward Island, and suggested possible improvements. At this meeting, discussions indicated that the department was aware of the many problems, and would be working to overcome them.

The slide presentation contained twelve suggestions. The titles are listed below while the text of the entire presentation is included as Appendix A.

1. Training Key Highway Employees
2. Pinpointing Problem Sites
3. Writing Prescriptions for Problem Sites
4. Time Tabling Construction and Maintenance
5. Road Construction in Sensitive Areas
6. More "Permanent" Surfaces
7. Regular Maintenance of Silt Catching Ditches - Devices
8. Use of Forested Lands as Silt Traps
9. Silt Pits
10. Seeding
11. Preventative Maintenance
12. Seasonal Issues

The spirit of these recommendations was to increase emphasis and importance placed on erosion control.

Direction

1. **Some suggestions were acted upon, others will hopefully be addressed in the near future. While it is acknowledged that some suggestions require budget increases and/or re-allocations and this takes time, Council feels that greater emphasis must be placed on the need for a major re-examination of issues surrounding erosion control by this department.**

"The department must give a higher priority to erosion control and co-operate with other government departments, land owners and community groups in their efforts to control erosion."

The Environmental Advisory Council cooperated with Conservation Strategy staff in the development of a seminar for all highways staff to make them more aware of erosion abatement techniques and the consequences of not adequately addressing soil erosion. It was apparent from the workshop that although there was keen interest in erosion control, especially by the equipment operators, there were many reasons why these measures were not occurring. Erosion control techniques such as silt-trap construction and maintenance are obviously effective but financial limitations appeared to be a prime factor in restricting useage.

Activities such as increased diversion of ditches into woodlands require the involvement of both Department of Transportation and Public Works field staff and the local land owners. It is essential that there be a revitalized, conservation effort within the Department of Transportation and Public Works.

2. **Seminars with all highways staff should be continued, for participants with first hand knowledge of conditions in their area and are best able to make suggestions for improvements. Co-operation with conservation oriented community groups should be encouraged.**

3. In addition to the twelve suggestions made in the presentation the following should be implemented:

   a) The provision for an environmental engineer to effectively advise on proper program developments and modifications.

   b) The establishment of proper erosion control structures on new construction.

   c) The establishment of an improved program to maintain erosion control devices and techniques during subsequent maintenance programs. It is suggested that a youth employment program may be an effective aid in this area.

   d) The provision of adequate funding to ensure the programs mentioned above can be implemented.

CONCLUSION

Great strides in experimentation and the development of erosion control techniques for Prince Edward Island have been made in recent years. In some locations the degree of implementation of erosion controlling techniques has been excellent, but greater emphasis must be placed on meeting the goal of reduced erosion throughout the province by the Department of Transportation and Public Works.

FISH AND WILDLIFE

SENATE COMMITTEE ON FISHERIES

"There are a large number of federal and provincial agencies...organizations local groups and individuals concerned with the management, use and enjoyment of wildlife."

The Environmental Advisory Council developed a presentation for the Standing Senate Committee on Fisheries. This document which is attached as Appendix "B", provided the Federal Government with a clear statement of the recreational needs in Prince Edward Island. Of paramount importance was the importance of community and non-government organizations being encouraged and supported in their efforts to restore and help manage their streams. The energy and effectiveness of such groups should not be underestimated. In public awareness and involvement lies the future success of our watershed management.

Direction

1. **There should be long term planning with community involvement for the management of the recreational fishery for P.E.I.**

2. **There should be greatly expanded Federal participation in the recreational fishing program in the form of increased financial and personnel resources.**

FISH HABITAT AND POPULATION ENHANCEMENT

"Stream degradation is the most important problem now confronting the maintenance of existing stocks of fish and wildlife in the province".

The Environmental Advisory Council strongly supported the use of the Island Conservation Assistance Program for stream enhancement projects. The Environmental Advisory Council also participated in a three day stream enhancement training program, which was developed for students working on projects throughout the Province. These projects were extremely successful, in part because of the rehabilitative improvements on the streams, but, equally importantly because of the involvement of the community. Students become concerned about their local environment and communicated with others within the community about the nature of this work.

3. **Because of the tremendous benefits of these programs, especially in raising community awareness about the environment and the Provincial Conservation Strategy it was recommended that the Island Conservation Assistance Program be continued and expanded, both in funds available and diversity of programs.**

ENDANGERED SPECIES

"One goal of a conservation strategy must be to prevent the needless endangering of species that share our Island home, even though they may have little apparent economic value."

The Environmental Advisory Committee suggested Island Conservation Assistance Program funding for a project to review nesting problems and suggest a management approach in the Crowbush area for Prince Edward Island's one bird which is on the endangered species list - the Piping Plover. The project provided additional information about nesting and raised some public awareness and concern. A sign used throughout Atlantic Canada and the U.S.A. was co-sponsored.

4. **It is suggested that the management of non game species should take a higher priority in future planning operations of the Department of Community and Cultural Affairs.**

CONCLUSION

Several recommendations of the Conservation Strategy, and in particular those addressing fish habitat are being addressed. Other recommendations should be addressed more fully.

COASTAL ZONE

SAND MINING

"Sand mining is a legitimate activity in areas... Special attention should be paid to the manner in which the sand is extracted, to resolve conflicts between extractors and local residents".

Concern about sand mining activity was raised with the Environmental Advisory Council by people from the Gascoyne Cove Area. The Environmental Advisory Council responded by examining sand movement and harvesting from Prince Edward Island in general and from the Gascoyne Cove area in detail. The Environmental Advisory Council hired a consultant, a geological engineer, to review the literature available concerning sand movement and sand deposition around the province, as well as current Government sand removal programs. The Environmental Advisory Council also participated in an informational meeting sponsored by the Belle River Environmental Protection Association during which the consultant presented his findings. The public meeting served to provide information to local people about sand formation and its movement, as well as provide a forum for discussion about a rather tense issue within the community.

Direction

1. **It was recommended that there be increased involvement of the community in verifying the amount of sand removed from the Gascoyne Cove area and that there be increased communication with the community so that they are aware in advance of the amounts, locations and timing of the sand removal.**

CONCLUSION

Our beaches are one facet of our provincial environment which Islanders prize most highly. Activities such as sand mining, which might be misunderstood or thought to be damaging, should be carried out with care and community involvement.

LANDSCAPE, LAND USE PLANNING AND TOURISM

FIXED LINK

"Environmental consideration should play a greater role in the land use planning process".

The Environmental Advisory Council examined the process being followed in the analysis of the projected effects of the proposed fixed link with New Brunswick. On two occasions the Provincial and Federal representatives involved with the assessment of the various fixed link proposals attended Council meetings to make presentations. The Council informed the Minister that Council was satisfied with the integrity of the process - i.e. that the direct environmental concerns had been addressed. This support was contingent on the understanding that sufficient time would be allowed to ensure adequate public involvement. Council also noted the need to study the impacts of the proposed link on land use and the environment within this province. These concerns should be addressed by providing some form of protection for environmentally important sites. This problem should be addressed by the Royal Commission on Land Use.

Direction

1. **The Environmental Advisory Council recommended that the integrity of the process was satisfactory but that secondary environmental concerns relating to land use and the environment must be addressed.**

NATURAL AREAS

"The government should make a commitment to protect environmentally significant sites in this province".

The Environmental Advisory Council recognized the need for providing long term protection for the most environmentally important sites on Prince Edward Island and supported the Island Nature Trust for their activities to encourage the development of an appropriate Act. Council reviewed the Act and provided suggestions for modifications. The Natural Areas Protection Act was subsequently passed. The Council has been identified as the Advisory Committee called for by the Act.

2. **It is recommended that government should provide short and long term protection for the Province's natural areas. These total less than 1% of the Province's land mass and represents the most environmentally important sites on Prince Edward Island.**

CONCLUSION

The establishment of a fixed link will have a significant effect on Prince Edward Island. The consideration of both the direct and indirect effects should occur.

WATER MANAGEMENT AND POLLUTION CONTROL

DUMPS AND SANITARY LANDFILL SITES

"Because our province is not heavily industrialized we do not suffer from the major pollution problems of more densely settled parts of the country. This does not mean pollution is not a problem.

The Environmental Advisory Council reviewed the Government's garbage disposal/landfill program. Sites were visited by Council members and a visual presentation prepared to illustrate the problems for government personnel. As a result of recent actions by the Department of Community and Cultural Affairs there appears to be improved dump management.

Direction

1. **It is suggested that there be increased funding to ensure proper dump management. There should be a universal policy respecting tippage fees so that certain dumps are not utilized because of cheaper user costs or less controlled dumping conditions. There should also be a more active program of litter regulation enforcement to ensure that established dumps are used.**

HIGHWAY LITTER

The Environmental Advisory Council sponsored a contest to promote environmental awareness in the school system through the development of an anti-litter sign. Over 200 entries were submitted. Subsequently, judging took place and prizes were awarded.

2. **It was recommended that there should be an improved and revitalized highway anti-litter program. A new anti-litter sign would be beneficial.**

STREAM LITTER

The Environmental Advisory Council has learned that land owners are upset about litter left along streams by recreational users of these sites. Owners are threatening to restrict the use of their property as a result.

3. **It is recommended that community based Adopt-A-Stream programs, stressing habitat enhancement and respect of land owner rights, should be encouraged. The Island Conservation Assistance Program helps promote this concept. The small litter bag program which has not been active in recent years should be reinstated.**

CONCLUSION

Litter and our dump conditions affect us all. Prince Edward Island is known for its clean landscape. This feature must not be allowed to be lost through neglect.

EDUCATION AND PUBLIC AWARENESS

ENVIRONMENTAL EDUCATION

"We strongly recommend that the province develop an integrated science based program of environmental and resource education..."

The Environmental Advisory Council supported the concept of initiating a review of the environmental and resource education program currently being taught in the school system with the goal of developing a much improved curriculum. Funds for a two year program were allocated under the Conservation Strategy budget.

Direction

1. **Council recommended the approval of educational study funds.**

PUBLIC AWARENESS AND INVOLVEMENT

"Ways must be found to involve the whole of the Island Community in the concepts of sustainable development and stewardship of resources"

The Environmental Advisory Council has made a number of presentations to schools, community schools and organizations. This has served to raise the public awareness of environmental issues to some extent.

The Environmental Advisory Council has strongly supported the use of Conservation Strategy funds for the Island Conservation Assistance Program because of the benefits of visible activity in communities. With awareness it is hoped that activities harmful to the environment will be reduced.

The Environmental Advisory Council supported the Island Conservation Assistance Program training programs by serving as instructors. Environmental Advisory Council members have also visited project sites to encourage the participants and provide advice.

An agricultural video on soil erosion, its effects and remedial techniques, was supported and the text reviewed by the Council.

2. **It was recommended that Government continue to expand the Island Conservation Assistance Program in order to encourage communities to develop and carry out their own environmental projects, thereby raising community awareness.**

CONCLUSION

It is only through a more aware and understanding public that we can hope to obtain the long term benefits envisaged in the Conservation Strategy.

LEGISLATION & ENFORCEMENT

NEW OR IMPROVED LEGISLATION

"New legislation or revisions of existing legislation should be prepared and enacted after appropriate public scrutiny."

ENVIRONMENTAL PROTECTION ACT

The proposed Environmental Protection Act was reviewed in detail and suggestions made for changes. Following a review by other groups the act was passed in 1988. The Council subsequently addressed the issue of enforcement of the Act.

Direction

1. **It was recommended that the Environmental Protection Act should be enforced whenever violations occur. The restoration of the damaged site should also be a priority.**

PLANNING ACT

The proposed Planning Act was reviewed and comments forwarded. Following public input the Act was passed.

2. **It was recommended that the act be strictly enforced.**

NATURAL AREAS PROTECTION ACT

The proposed Natural Areas Protection Act was reviewed in detail and suggestions made. Following input by the public, primarily the Island Nature Trust, the Act was passed (see Landscape, Land Use Planning and Tourism).

3. **It is recommended that a program for acquisition of additional natural areas be initiated, to be carried out in conjunction with non-government organizations (e.g. Island Nature Trust, Nature Conservation, Wildlife Habitat Canada).**

CONCLUSION

Great strides have been made to improve or create new legislation to allow for the protection of our environment. With the enabling legislation, government must now implement these acts.

OTHER ACTIVITIES

The Environmental Advisory Council has responded to requests of the Minister or problems as they arose. The following is a list of items that were addressed or are currently under consideration.

1. Coastal Zone Subdivision Policy

   The Coastal Zone Subdivision Policy is to be reviewed in 1989.

2. Conservation Strategy Brochure

   The concepts for a Conservation Strategy brochure were reviewed and suggestions made. The brochure will be released shortly.

3. Environmental Awards

   Council invited submissions for Environment '87 and '88 awards. A selection was made and the awards presented by the Minister responsible for the environment.

4. Gasoline Spills

   The current government programs and regulations respecting gasoline transportation and spillage were reviewed. These appear to be adequate.

5. National Assembly of Environmental Advisory Councils

   A delegation from the Prince Edward Island Environmental Advisory Council participated in a conference of Environmental Advisory Councils from across Canada in 1987 and 1988.

6. Offshore Island Policy

   A policy for the management of Prince Edward Island's Offshore Islands will be reviewed in 1989.

7. Photo-degradable Bags

   Initial information collected on bio-degradable and photo-degradable shopping bags indicated that these types of bags could be very beneficial to our environment, and should therefore be encouraged. Further data is to be collected.

8. Smelt Shacks

The problem of smelt shacks was reviewed. The Fish and Wildlife Division of the Department of Community and Cultural Affairs and the Federal Department of Fisheries and Oceans are currently exploring methods to overcome the problem of shacks not being removed from the ice prior to spring break-up.

9. Sunken Car Contest

Council suggested that although the Y.M.C.A. vehicle which was part of a fund raising contest did not present an environmental hazard, contests such as this which "appeared" as pollution should be discouraged.

10. Trail Development

The concept of a trail for recreational use by hikers was supported. Council recommended funding through the Island Conservation Assistance Program, to renew the Bonshaw Hills Trail.

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APPENDIX A

PRESENTATION TO: P.E.I. Department of Transportation and Public Works

FROM: Environmental Advisory Council

RE: Highways and Erosion Control

DATE: January 5, 1988

We live in a province with much sloping land and sandy soils that are easily eroded. Almost half our land is under cultivation. We also have a greater length of roads per capita than any other province in Canada. These factors have led to severe erosion problems, resulting in a heavy deposition of the products of erosion in our streams.

A century ago most of our estuaries were deep enough to float fairly large sailing ships and now in many of these same sites a canoe will run a-muck on low tide. All of our major rivers and streams are heavily silted; many ponds have been transformed into deltas of silt. Habitat for fish and wildlife has been degraded and often eliminated in a slow yet persistent and insiduous manner. No price tag is available for the actual cost of these losses of our wildlife. However, expenditures involved in breaching causeways and removing silt from shellfish beds give us an appreciation of the enormous financial burden associated with improper management of our water resources.

We believe that there are actions that the Department of Transportation and Public Works can take that would provide significant reductions in road-related erosion and the amount of silt entering our streams from highways and other upland sites. We believe that the Department should address the erosion problems with a sense of urgency.

Silt Sources

It is well known that many activities contribute to heavy silt loads in our streams. Forestry practices can cause major problems; the current federal/provincial agreement is implementing excellent measures to minimize these effects. In-stream erosion occurs from natural or man-made obstructions; current stream enhancement projects are beginning to address this problem. Agricultural activities are one of the greatest contributors to siltation problems; programs must be developed to encourage techniques that will reduce the impact. Bare field erosion not only reduces the agricultural capacity of farmland but also destroys the streams into which the silt is deposited. Road construction and maintenance activities also play a significant role in depositing silt in streams. In many cases roadside ditches conduct the products of erosion derived from agricultural activities into our streams.

Monies have been allocated to start the long difficult process of rejuvenating our streams and estuaries. For these programs to be successful, the amount of silt reaching Island watercourses must be reduced. The magnitude of the silt problem varies from watershed to watershed but the major culprits are almost always farming practices and/or highway construction and maintenance.

Solutions:

The erosion problems on P.E.I. have become so severe and obvious that numerous organizations and individuals have been urging the province to find solutions. Following is a summary of the suggestions made to us regarding possible solutions. We believe that if implemented these suggestions would greatly alleviate highway-erosion problems.

1. Training Key Highway Employees:

Supervisory personnel must be aware of erosion problems and techniques available to overcome them. Tours to demonstration sites will be useful but dispatchers and machine operators will have to understand the magnitude of the problems and be convinced that they can help.

2. Pinpointing Problem Sites:

Students from rural areas could do this if properly supervised. It would be desirable for such students to be from the various "Districts" so they would know the local landowners and organizations.

3. Writing Prescriptions for Problem Sites:

We believe that to have an ecologist on staff, to work with highways personnel and students in planning solutions and developing rehabilitation techniques, is essential.

4. Timetabling Construction and Maintenance:

Construction and maintenance should start early in the season to allow adequate time for grasses and other stabilizing vegetation to "catch". The worst sites for potential erosion should be completed first.

5. Road Construction in Sensitive Areas:

Work should be conducted in a manner which permits completion of road sections with stream crossings (with silt catchers and other erosion devices in place) before the remainder of the highway is completed.

6. More "Permanent" Surfaces:

On clay roads, sandy ditch deposits are often graded back upon road surfaces where they quickly erode away. The use of quality shale, gravel and one-lane pavement to a greater extent would mean shorter distances "improved" each year but the results would be more permanent.

7. Regular Maintenance of Silt-catching Devices:

The cleaning of silt traps with appropriate equipment should be considered a routine part of road maintenance. This is especially important in autumn in preparation for spring run-off.

8. Use of Forested Lands as Silt traps:

The diversion of ditches through wooded zones before they reach streams has proven effective in several locations on P.E.I. Each site must be carefully evaluated and landowner permission attained. Landowner co-operation should be better if local students are involved with the projects.

9. Silt Pits:

Where other techniques are inappropriate silt pits constructed adjacent to streams to act as settling basins for ditch water may be desirable. Proper design and regular maintenance of these would be essential for optimal functioning.

10. Seeding:

The use of the hydroseeder in recent years has shown dramatic results. However, there are often long delays between soil disturbance and the availability of the machine. Occasionally seeding occurs so late that grasses do not catch (in a normal year September 15 should be considered a cut-off time for establishing such grasses). In certain instances other types of stabilization might be more effective.

11. Preventative Maintenance:

Regular spring checks at all major stream crossings can sometimes prevent major renovations.

12. Seasonal closures:

When ditches along clay roads become packed with snow, vehicle ruts during thaws tend to carry much of the run-off causing deep trenches (especially if the road surface is not properly sloped or stabilized). Where acceptable, these clay roads should be closed to vehicles during winter and early spring.

We believe that the time is ripe to undertake an energetic program of erosion control along our Island highways. Various government agencies (e.g., Fish and Wildlife Division) and numerous private organizations (e.g., Wildlife Federation) are strongly supportive and willing to assist. This is not a small task but if successful the rewards will be enormous. Our sport fishery, the health of our estuaries and long-term viability of our shellfish industry depends on the success of our erosion control programs.

APPENDIX B

Brief presented to the Standing

Senate Committee on Fisheries

Development of Prince Edward Island's Recreational Fishery

By: Daryl Guignion.

For: P.E.I. Environmental Advisory Council.

1. Introduction

In making this presentation to you we recognise that the mandate of this Committee is to study the marketing of Canadian fish and fisheries products with the purpose of identifying issues that would help expand the markets for Canadian fish. While your interest is directed toward species involved in the commercial fisheries many of these same species are or have potential to be utilised by the recreational fishery. It is the recreational fishery that we wish to comment on with regard to its potential for development and marketing.

In 1985 the angling population in Canada spent 4.4 billion dollars associated with their sport. This represents an annual increase of 12% per year since 1980. In 1985 in Prince Edward Island it is estimated that anglers spent 2.0 million dollars on activities directly related to sportfishing. Since then angling opportunities for Atlantic salmon have increased creating additional interest in the recreational fishery. We recognise there is great potential to expand the sites for fishing to include cosastal and off-shore areas as well as the number and variety of species caught.

Recreational fisheries are abundant around Prince Edward Island and include many species from both marine and freshwater ecosystems. Recreational fishing is strong on Prince Edward Island and remains a tradition among residents and nonresidents. Recreational fishing is a major leisure activity involving anglers from both sexes and all ages. Recreational fishing has increased in popularity and has witnessed an enormous growth in some areas in the past ten years. Recreational fishing generates a considerable revenue through the sale of licences, sales taxes and import taxes on fishing equipment and goods for the federal and provincial governments. Recreational fishing also generates a considerable revenue for tourist operators and other associated small businesses. Recreational fisheries are desirable for maintaining and improving the quality of life on Prince Edward Island and for improving the rural economy.

Prince Edward Island has a small land mass (2,184 sq. miles) but its coastline is extremely long. If all the bays and estuaries are included (up to the head of tide) our coastal zone actually extends over 1,000 miles (1600 km), much of which is sheltered and readily accessible. Our large, shallow bays and estuaries provide excellent habitat for many species of anadromous sport fish as well as sites for angling. For many species all life stages may be found in these highly productive environments. While there are many marine and estuarine sportfish deserving further discussion the scope of this

presentation is directed to the salmonid sport fishery.

The number of indigenous salmonid species on Prince Edward Island is limited to two species: the Atlantic salmon and the brook trout. A third salmonid species, the rainbow trout was first introduced from the west coast, to Island waters in the late 1920s. Since that time this species has become naturalized in many river and pond systems and has developed sustaining populations that now play an important role in the sport fishery. Anglers rely primarily on brook and rainbow trout, and to a lesser extent Atlantic salmon for sport fishing. Island inland waters are very productive and this province has become renowned for its high quality salmonid sport fishery. Many of our larger streams also have sea-run brook and rainbow trout and these species provide angling in bays, estuaries, streams and ponds. Sea trout are especially sought after as they first enter freshwater from the sea.

Streams and ponds on Prince Edward Island are derived from ground water in the form of springs and seepage and rain water. Except for bog areas and a few small ponds most fresh water is of good quality, cool and with an alkaline pH. During the summer there is sufficient ground water to permit even small streams a continuous flow. In winter, due to the warmer spring water and faster flow, streams remain usually ice free. Thus inland freshwater areas are basically excellent sites for the reproduction and early growth of cold water salmonid fishes.

Although Prince Edward Island has excellent ground water quality and flow, there has been a deterioration in the quality of surface water in recent years. Especially significant has been the upland erosion which results in silt being carried to and deposited in most of our streams, ponds, and adjacent coastal areas. Silt loss has been particularly large in agricultural areas where hedgerows have been removed to create larger fields thereby fostering greater wind and water erosion. Inadequate erosion control around newly improved secondary roads has also increased stream silting.

2. Restoration of habitat and fish stocks

The acceptance of the Conservation Strategy by the Provincial Government in 1987 set the stage for expansion to the ongoing efforts to rehabilitate fish populations on Prince Edward Island. The Morell River has provided an example of what can be accomplished when local community groups work closely with Provincial and Federal agencies. In 1974, a green belt (at the request of landowners) 3 chains wide (198') and about 45 km long was established along the river. In this zone potentially detrimental activities (such as clear-cutting or construction) were prohibited. Several employment projects over the years have resulted in improved access for anadromous fish and restoration of quality spawning and nursery areas. Many of the major

pollution problems such as sawdust and silt have been eliminated or reduced. Early run stocks of salmon for greater angling opportunity have been introduced and new techniques for rearing juvenile salmon (semi-natural) have resulted in a phenomenal return of salmon runs.

Over the past few years more local communities have become involved with river improvement; several groups have now "adopted" a stream. The conservation strategy has been largely instrumental in encouraging this trend by providing advice, supplies and materials and even top-up monies for salaries.

3. Possibilities for Expansion of the Sport Fishery

In a survey conducted by the Provincial Fish & Wildlife Division for the 1985 season, it was found that there were approximately 24,000 active anglers. With a resident population of about 125,000 people it is obvious that most Island families had someone who participated in the sport. Some fishermen go out almost every day of the season and "opening day" drains most rural schools of many of their students. Thus, angling is extremely important to Islanders and is a cherished part of our way-of-life.

An increasing number of visitors also enjoy sport fishing on Prince Edward Island. This year the Provincial Dept. of Tourism & Parks has identified "Touch Nature" as their promotional theme, and one of the most meaningful ways for people to do this is by angling. Interestingly enough, most people rank factors such as

quality of water, privacy and beauty of surroundings higher than number of fish caught so it is extremely important for us to maintain a quality environment for all users.

With the increase in size of the salmon "runs" in the Morell River anglers have come from far and near. Many people come from other provinces, the United States or even Europe to fish salmon on the Morell. They regard Prince Edward Island as being special because family vacations can include a variety of accommodation facilities, fantastic beaches, the Confederation Center plays, horse races and angling all within easy "striking distance".

According to Tuomi (1987) anglers in eastern Canada fished for Atlantic salmon for 1,251,500 days in 1985. They kept 176,800 fish and spent close to $72 million. In other words, each Atlantic salmon was worth over $400.00 to the local economy in 1985. The salmon run on the Morell River went from close to zero three years ago to about 2,000 fish last year. Clearly, with appropriate resources and expansion of semi-natural rearing facilities for additional rivers, salmon alone could provide a multi-million dollar renewable resource for P.E.I. The potential exists to enormously increase the stocks of trout (and thus angling opportunities) as well. In addition, our marine recreational fishery (for cod, mackerel, etc.) is in its infancy.

4. Major Bottlenecks

In a recent publication by the Federal Department of

Fisheries and Oceans (1987) it states that "our recreational fisheries contribute to the nation's social and economic development. Five and a half million Canadians and over 900 thousand tourist anglers fished in marine and inland waters in 1985.". For the Atlantic region "the department spends about $17 million and 111 person years for recreational fisheries". This sounds like a "rosy" situation for places like Prince Edward Island. However, a closer look shows reality.. In 1987, the whole Gulf region had only $30,000 for capital expenditures for salmon enhancement. At "client" consultation meetings in Moncton this year speaker after speaker "preached poverty". It appears that restructuring the Atlantic region into "Scotia" and "Gulf" sections has set up a good framework but unfortunately there is little money left to hire the necessary workers or supply them with resources to conduct their work. Instead, there have been cut-backs and rather than an expanded effort as more community groups and non-government organizations become involved the Federal department has cut both person years and resources. So we end up with an elaborate bureaucracy but few workers or resources. When our local organizations have attempted to get capital dollars, it is near impossible and the procedure is long and agonizing. Even the most enthusiastic groups become discouraged and wonder why there are so few biologists and so many assistant deputy ministers and other high level bureaucrats who appear to know little and care less about local problems or interests.

In 1986 Fisheries and Oceans, Canada produced a new policy for the management of fish habitat (Minister of Supply and Services, 1986). It appears to be a marvellous document with a clear objective of "net gain of productive capacity for fisheries resources". The goals are admirable: (1) fish habitat conservation; (2) fish habitat restoration; and (3) fish habitat development. The implementation strategies are impressive: (1) protection and compliance; (2) integrated resource planning; (3) research; (4) public consultation; (5) public information and education; (6) cooperative action; (7) improvement and (8) monitoring. The only problem is there has been much talk but no action.

We have been informed about an excellent salmonid enhancement program (S.E.P.) in British Columbia. In Pacific Tidings (1986), Tom Siddon states "the commitment from this government is for $208 million for the next five years. We have not set specific budgets for beyond that date, but we have a guarantee of funding at the level of $42.5 million a year into the 1990's. This will assure S.E.P's future". It gives us pleasure to see such a positive initiative but one must remember that federal revenues generated from sport fishing (mainly salmonid) in British Columbia in 1985 was $46.74 million while provincial revenues were $36.21 million (Minister of Supply & Services, 1988). Surely it is only reasonable to pump the $42.5 million a year back into a growing resource.

Unfortunately on the east coast we cannot boast of a

salmonid enhancement program yet, although the Federal Minister of Fisheries promised one in the autumn of 1986. Until new funds become available our plans for the continued rejuvenation of our salmonid stocks must remain on hold. We await leadership, long term planning, person years and resources from the federal government.

5. Literature cited

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